

fields 34 and over a conduit 36 through the heat exchanger 38 and back to the pump 40. Thus, the coolant flow fields 34 are not dead ended.

In Collins Figs. 4, there is a coolant inlet 98 and a coolant outlet 104; in Fig. 5, a coolant inlet 130 and a coolant outlet 132; in Fig. 6, a coolant inlet 142 and a coolant outlet 144; and in Fig. 7, a coolant inlet 148 and a coolant outlet 150. In Collins Fig. 2, and referred to in column 7, lines 36-40, the oxidant passage 68 has an inlet 70 and an outlet 72. Thus, Collins does not teach "water flow fields being dead ended in the region of the corresponding one of said reactant gas inlet manifolds" as required in claim 1, lines 15-17.

Claim 1 also requires "a flow restrictor at the exhaust end" of the water flow field. The Office Action deals with the purpose "to maintain the pressure of reactant gas in said one flow reactant gas field above the pressure of reactant gas in said corresponding one of said reactant gas exit manifolds", but does not refer to the structure, "a flow restrictor", at all.

Collins does not have "a water flow field...opening into the corresponding one of said reactant gas exit manifolds" as called for in claim 1. This too is not mentioned in the Office Action.

Thus, there are three important pieces of structure required by claim 1 that have not even been dealt with in the Office Action. None of this can be disclosed by Collins, because Collins has an external water loop and the coolant flow fields extend between an inlet connected to said external loop and an outlet connected to said external loop. Collins is therefore irrelevant to lines 13-20 of claim 1. Collins does not disclose "said water flow field being dead ended", Collins does not disclose "said water flow field...opening into...said reactant gas exit manifold" and Collins does not disclose "a flow restrictor". Thus, Collins cannot anticipate claim 1.

For the foregoing reasons, reconsideration and allowance of claim 1 over Collins is hereby respectfully requested.

3. The rejection of claim 2 is totally inconsistent. First, it says "if the only change was the impervious separator plate, and there were a plurality of cells the claim would seemingly lack enablement, as it is not clear how the cell would operate. In any case, the claim limitations are in the Collins reference." Thus, it would appear that Collins would seemingly lack enablement as well if it has such structure. In fact, in Fig. 3 (column 8, lines 14 et seq.) Collins does disclose a sealed coolant plate 80 (or 84). So long as it is made of conductive material, it will not impair operation. This is a common structure. Under the doctrine of claim differentiation, claim 2 does indeed prevent the implication of a "impervious separator plate" in the reading of claim 1. Claim 2 is patentable because it depends from claim 1, which is patentable as described hereinbefore in paragraphs 1, 2. Therefore, reconsideration and allowance of claim 2 over Collins is hereby respectfully requested.

4. The rejection of claim 3 assumes that the pressure gradient is relative to ambient. That is not what the claim calls for: "said flow restrictor maintains the pressure of reactant gas between 0.2 and 2.0 psi above the pressure in the corresponding exit manifold." In any event, claim 3 depends from claim 1 and is patentable for the same reasons. Therefore, reconsideration and allowance thereof over Collins is hereby respectfully requested.

5. Claim 4 calls for "at least one weep hole"; the rejection refers to column 3, line 27, presumably in Collins. There is absolutely no teaching at that point or elsewhere in Collins which would have any relevance to a weep hole as set forth in claim 4. If this rejection is maintained, then the column and specific lines (not et seq.) and reference numerals to appropriate portions of the drawings must be referred to. Claim 4 is additionally patentable for the same reasons as claim 1; therefore, reconsideration and allowance of claim 4 over Collins is hereby respectfully requested.

6. Claim 8 is patentable for the same reasons as claim 1; reconsideration and allowance thereof over Collins is requested.

7. "Solid with holes" is not the same as "porous"; "solid" would have no meaning at all under such a construction.

#### Rejections -103

1-3. Claim 6 is rejected as obvious over Collins and the publication of Perry et al (Perry). The rejection is wrong in that Collins does not disclose a barrier in a water flow field; thus Perry cannot teach that such barrier might be as shown in Perry. Further, the rejection clearly is confusing the humidification zone (at the inlet end of the reactant gas flow channels) of Perry with the claimed restriction which is at the outlet end of the reactant gas flow field (claim 1, lines 18-20). Thus, this rejection fails in that Collins does not disclose a barrier and Perry refers to the inlet and not the outlet. Claim 6 is also patentable as depending from claim 1; therefore, reconsideration and allowance of claim 6 over Collins and Perry is hereby respectfully requested.

4,5. Claims 6 and 10 are rejected as obvious over Collins in view of Monzyk et al (Monzyk). The baffles 46 in Fig. 5h of Monzyk are simply not interdigitated. Interdigitated means that there are a plurality of channels into which the gas may enter, but there is no outlet from those channels. Disposed between those inlet channels, there are outlet channels, which have no inlets but each has an outlet. That is not what Monzyk discloses. Claim 6 is patentable for the same reason as claim 1; therefore, reconsideration and allowance thereof over Collins and Monzyk is hereby requested.

6. In Fig. 6C of Monzyk, element 916 is a porous sorbent plug (column 16, line 11) and it is not within a weep hole as alleged. Further, it is not between

gas flow channels and water flow channels as required in the claims herein. Claim 10 is also patentable simply from depending from claim 1; therefore, reconsideration and allowance of claim 10 over Collins and Monzyk is hereby respectfully requested.

7,8. The request set forth hereinbefore is repeated: the undersigned requests a phone call prior to the next action, unless the foregoing is persuasive.

Respectfully submitted,



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